

Work Order ID 144285

April 12, 2016 9:29:30 AM

Rush
144285

Page 1

Item ID: D5146-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wearplate

Start Date: 4/12/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 4/13/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals:

Process Plan: *SEA*

Date: **20160412**

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr

Revision Nbr

D5146

B

110

0.00

110

Waterjet

Memo

0.01

FLOW CNC Waterjet

1-Cut as per dwg

prog rev: B

dwg rev: B

2-Deburr if required

120

QC2- Inspect parts off machine FAI/FAIB

0.00

120

QC

Memo

0.00

Quality Control

P.T.O.

DQA:

Date:

16.08.29



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed:

Date:

16.08.11

Work Order update only ☐

Work Order: <u>144285</u>		DISPOSITION		AGAINST DEPARTMENT/PROCESS					
Part No. <u>DF146-1</u>		Rework ☒		Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☒		
NCR No. <u>16-5968</u>		Scrap ☐		Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐		
		Use-as-is ☐		Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐		
		Suspected Unapproved ☐		Large Fab ☐	Composite ☐	Supplier ☐			
Date: <u>16-08-12</u>		Step #: <u>110</u>		QTY Effective: <u>①</u>				MRB (QSI042) Approval	
Description Work Order Deviation		Disposition				DAS 9 16-08-12 9-89 16-08-12 Completed By J.F. S 16-06-02 Lead hand / Supervisor Approval Verification DAS 38 APR 12 2016 QC / QA Coordinator Approval PD 16-06-02			
When filling out FAI employee notice that dimension 5.273 was 5.323 E.C. DXF wrong DFX		fix DXF DFX prep re cut qty 9.							
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☒				
Doc/Data ☒	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐								
Misidentified ☐	Past Due ☐	OTHER :							

Work Order ID 144285

April 12, 2016 9:29:30 AM

144285

Page 2

Item ID: D5146-1 Accept ***N900040100*** Setup Start ***NS1***
Revision ID: Stop ***NS2***
Item Name: Wearplate
Start Date: 4/12/2016 Start Qty: 6.00 ***6*** Cust Item ID:
Required Date: 4/13/2016 Req'd Qty: 6.00 ***6*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130 *130* QC Quality Control	QC8- Inspect parts - second check Memo	0.00 0.00				<u>12</u>			DAS 38 9-89 APR 12 2016
140 *140* Small Fab Small Fab	Memo Form as per dwg D5146	0.00 0.00			DAS 30 9-89	<u>6</u>			APR 13 2016
150 *150* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.00				<u>6</u>			DAS 38 9-89 APR 12 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY			
Environment ☐		No Re-verification ☐		Pressure/Forced ☐		Temperature/Cure ☐	
Design ☐		Operator ☐		Bending ☐		Set-up ☐	
Doc/Data ☐		Offset/Setup ☐		Centre Not Concentric ☐		BOM/Route ☐	
Equip/Tooling ☐		Supplier ☐		Cracks ☐		Broken/Damage/Defect ☐	
Handling/Pre ☐		Training ☐		Crimp/Kink/Ripple/Wave ☐		Inspection Incomplete/Unqualified ☐	
Material ☐		Use for Testing ☐		Cuffs ☐		Contamination ☐	
Internal Transport ☐		Poor Information ☐		Crushing ☐		Countersink ☐	
Tribal Knowledge ☐		Rushing ☐		Heat Treat ☐		Cut Too Short ☐	
LOA ☐		Product Improvement ☐		Wave/Twist in Tube ☐		Instructions Incomplete/Unclear ☐	
Substation ☐		Process Improvement ☐		Marks/Chatter ☐		Drill Holes ☐	
Past Expiry Date ☐		Manufacturing Process ☐		OTHER : _____			
Misidentified ☐		Past Due ☐					

Work Order ID 144285***144285***

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April 12, 2016 9:29:30 AM

Item ID: D5146-1

Accept

N900040100Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Wearplate

Start Date: 4/12/2016 Start Qty: 6.00

6

Cust Item ID:

Required Date: 4/13/2016 Req'd Qty: 6.00

6

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
160	Identify as per dwg & Stock Location: <u>W/K02</u>	0.00							
160						<u>6</u>	<u>EL</u>	<u>/6-4-13</u>	
Packaging	Memo	0.00							
Packaging	LOCATION: WA002								
170	QC21- Final Inspection - Work Order Release	0.00							
170									
QC	Memo	0.01							
Quality Control									

MLJ APR 14 2016MLJ APR 14 2016

DQA: _____ Date: _____

WORK ORDER NON-CONFORMANCE / UPDATE



QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					

Root Cause				FAULT CATEGORY																																																																																																																											
Environment	☐	Design	☐	Doc/Data	☐	Equip/Tooling	☐	Handling/Pre	☐	Material	☐	Internal Transport	☐	Tribal Knowledge	☐	LOA	☐	Substation	☐	Past Expiry Date	☐	Misidentified	☐	No Re-verification	☐	Operator	☐	Offset/Setup	☐	Supplier	☐	Training	☐	Use for Testing	☐	Poor Information	☐	Rushing	☐	Product Improvement	☐	Process Improvement	☐	Manufacturing Process	☐	Past Due	☐	Pressure/Forced	☐	Bending	☐	Centre Not Concentric	☐	Cracks	☐	Crimp/Kink/Ripple/Wave	☐	Cuffs	☐	Crushing	☐	Heat Treat	☐	Wave/Twist in Tube	☐	Marks/Chatter	☐	Temperature/Cure	☐	Set-up	☐	BOM/Route	☐	Broken/Damage/Defect	☐	Inspection Incomplete/Unqualified	☐	Contamination	☐	Countersink	☐	Cut Too Short	☐	Instructions Incomplete/Unclear	☐	Drill Holes	☐	Power Loss/Surge	☐	Folio/Program	☐	Grain	☐	Weld	☐	Wrong Stock Pulled	☐	Out of Sequence	☐	Off-set	☐	Mislabeled	☐	Fit/Function	☐	Misaligned/off center	☐	Positioned Wrong	☐	Outside Dimensions	☐	Over/Under tolerance	☐	Part Incorrect	☐	Part Lost/Missing	☐	Part Moved	☐	Drawing	☐	Finish	☐	Misread	☐	Turning Sequence	☐
OTHER : ☐																																																																																																																															

Picklist Print

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Page 1

Work Order ID: 144285

144285

Parent Item: D5146-1

D5146-1

Parent Item Name: Wearplate

Start Date: 4/12/2016

Required Date: 4/13/2016

Start Qty: 6.00

Required Qty: 6.00

Comments: IPP REV:A 14.11.13 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

M304S18GA		Purchased	No				sf	306.0960		26.98737			
-----------	--	-----------	----	--	--	--	----	----------	--	----------	--	--	--

M304S18GA

304/316 .050 Sheet

04/16/16 JZ

Location

Loc Qty

Loc Code

MAT020

210.096

M133328

124.496

M133587

85.6

TPI

96

M134604

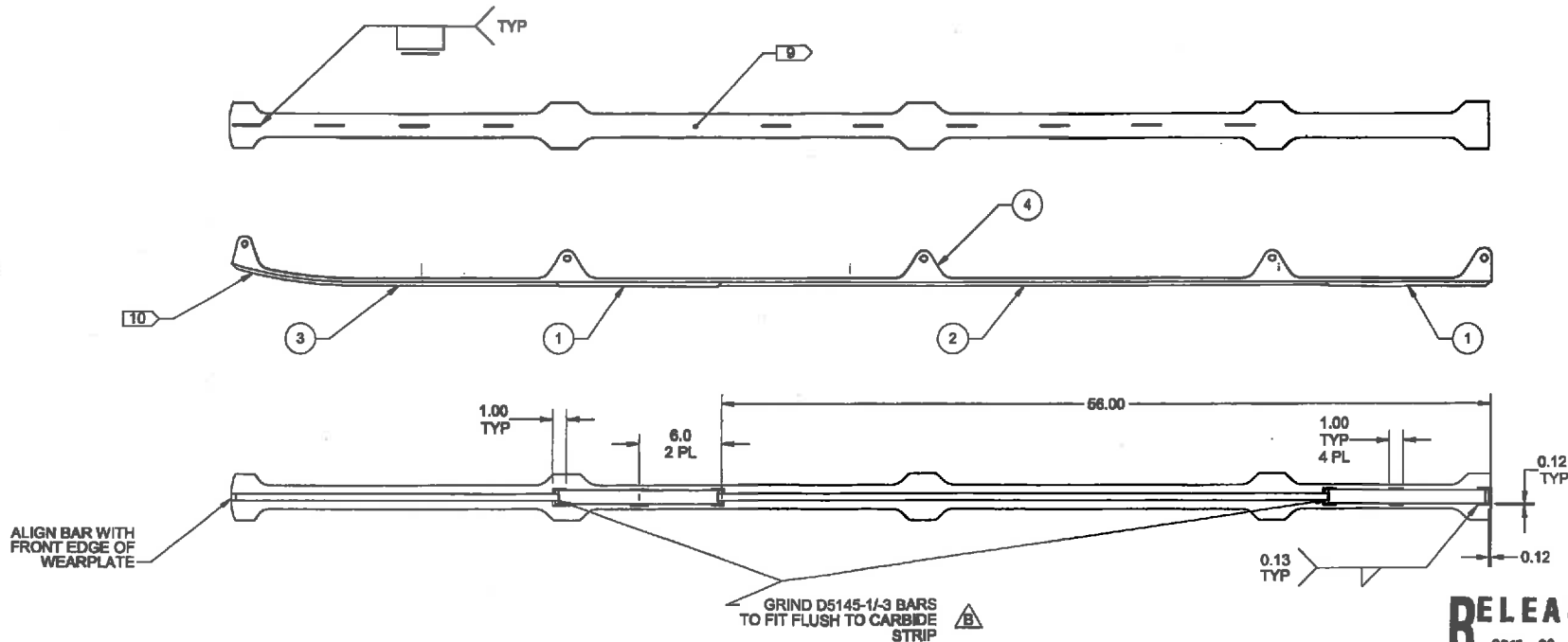
96

27.5

ITEM	QTY -041	P/N	DESCRIPTION
	X	D5146-041	WEARPLATE ASSEMBLY
1	2	D4932-1-120	KWS CARBIDE WEAR STRIP
2	1	D5145-1	BAR
3	1	D5145-3	BAR
4	1	D5146-1	WEARPLATE
5	A/R	TEXTURED COATING	SEE NOTE 9

58ehhl AS

2170910Z



D5146-041 WEARPLATE ASSEMBLY

NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY PER QSI 044 6.1
- 7) WEIGHT: 8.30 lbs
- 8) WELDING: PER QSI 004
- 9) COAT ENTIRE TOP (CONCAVE) SURFACE WITH TEXTURED COATING, 0.020-0.040 THICK, PER QSI 005 4.9.
- 10) FORM TO MATCH PROFILE OF D5146-1 WEARPLATE AT TIME OF WELDING

B	D5145-1/-3 LENGTHENED TO STIFFEN WEARPLATE. D5146-1F: 91.88 WAS 91.56, HOLES CHANGED TO SLOTS. (SEE DETAIL D 5H 3), 8.30 LBS WAS 7.89 LBS. REASON: CIR 15-43	DB	15.05.04
A	NEW ISSUE	DB	14.08.20
REV.	DESCRIPTION	BY	DATE
DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
DRAWN	DB		
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	DD	D5146	SHEET 1 OF 3
APPROVED	H8	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
DATE	15.05.04	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

RELEASED
2015-06-03

8 7 6 5 4 3 2 1

D

D

C

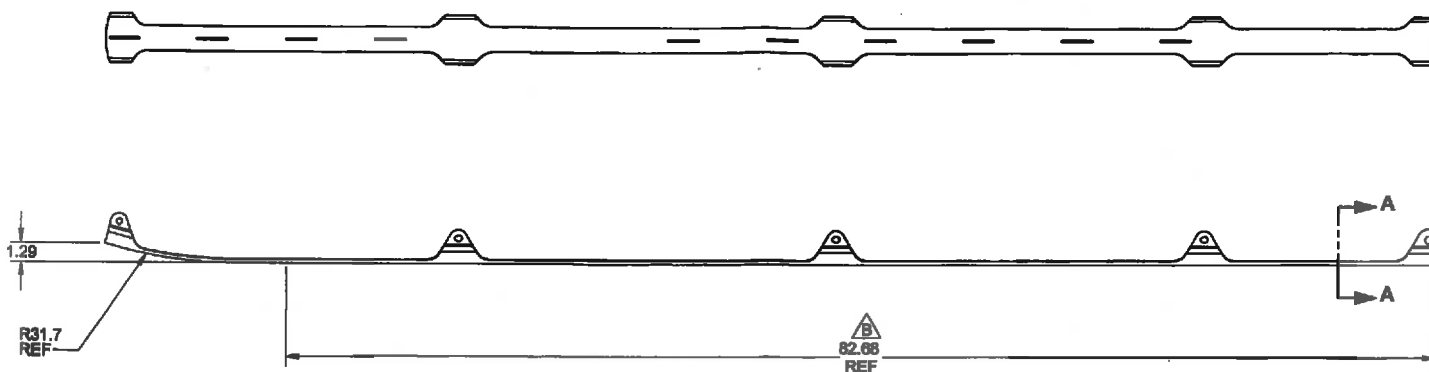
C

B

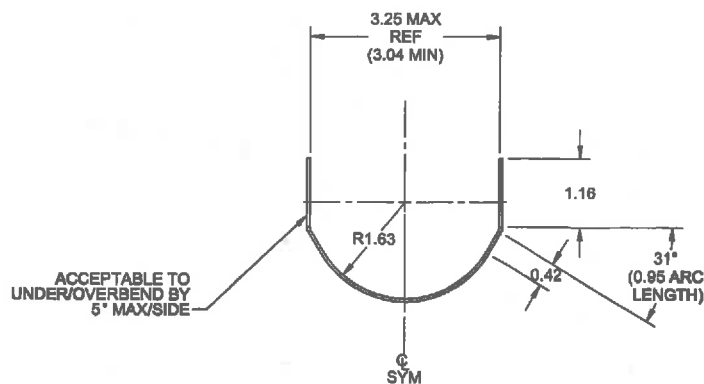
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A

A



D5146-1 WEARPLATE



SECTION A-A
SCALE 4X

NOTES:

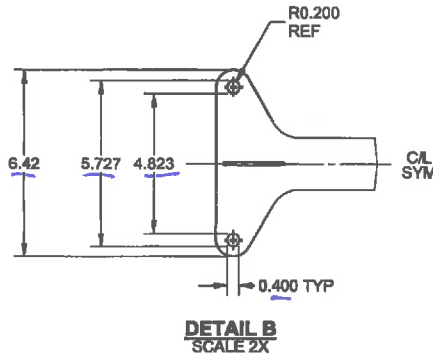
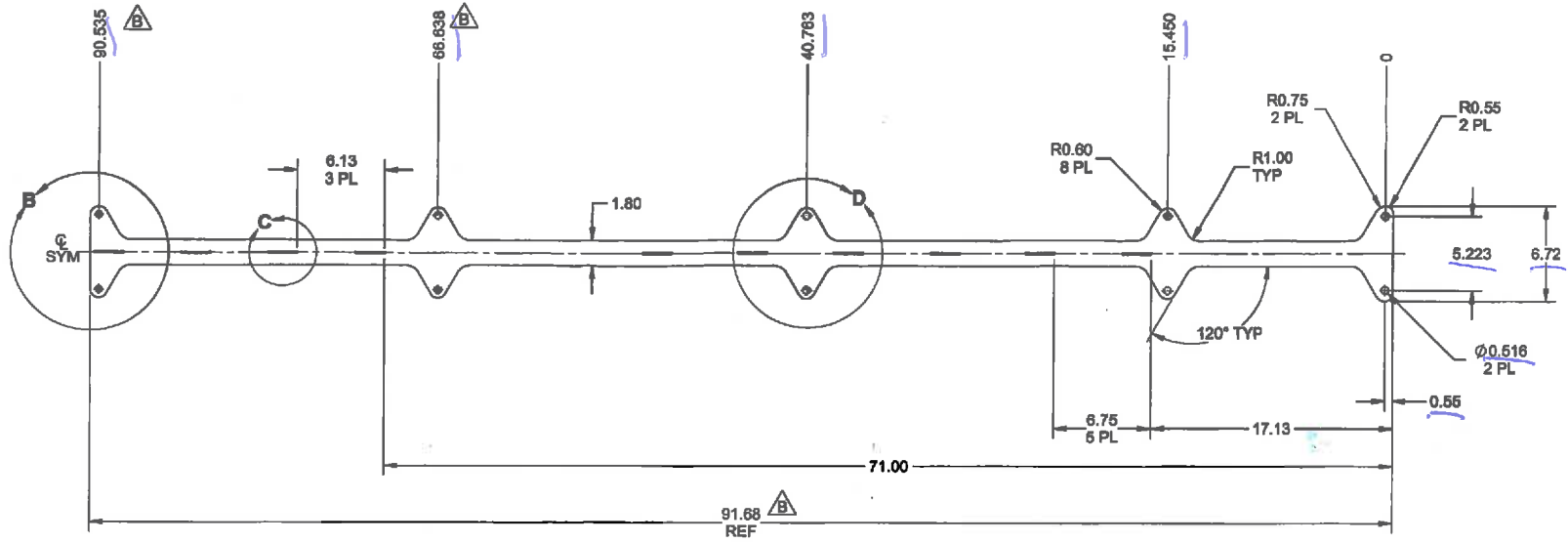
- 1) MATERIAL : MAKE FROM D5146-1F
- 2) FINISH : NONE
- 3) TOLERANCES : PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS : INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES : 0.005 TO 0.010 MAX
- 6) IDENTIFICATION : NONE
- 7) WEIGHT : 2.95 lbs

RELEASED
2015-06-03
Bul 15-564

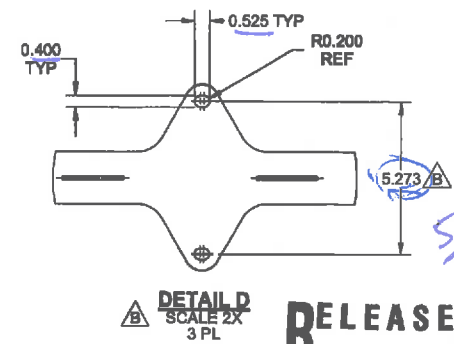
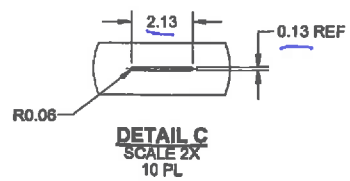
APPROVED

DESIGN	DB	DART AEROSPACE USA, INC.	
DRAWN	DB	KENT, WA	
CHECKED	MB	DRAWING NO.	REV. B
MFG. APPR.	DD	D5146	SHEET 2 OF 3
APPROVED	HS	TITLE	SCALE
DE APPR.	DS	WEARPLATE ASSY	NTS
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8 7 6 5 4 3 2 1



D5148-1F FLAT PATTERN



RELEASED
2015-06-03

- NOTES:**
- 1) MATERIAL : AISI 304/316 STAINLESS STEEL PER AMS 5513 OR 5524 OR ASTM A240 OR ASME SA240 18 GAUGE 0.050 THICK, (REF. DART SPEC. M304S18GA)
 - 2) FINISH : NONE
 - 3) TOLERANCES : PER DART QSI 018 UNLESS OTHERWISE NOTED
 - 4) UNITS : INCHES UNLESS OTHERWISE NOTED
 - 5) BREAK SHARP EDGES : 0.005 TO 0.010 MAX
 - 6) IDENTIFICATION : NONE
 - 7) WEIGHT : 2.95 lbs
 - 8) ALL NON-DIMENSIONED FEATURES CONTROLLED BY CAD FILE "D5148-1F-REV.B.DXF".

APPROVED	DESIGN	DB	DART AEROSPACE USA, INC. KENT, WA	
	DRAWN	DB		
	CHECKED	MB	DRAWING NO.	REV. B
	MFG. APPR.	DD	D5146	SHEET 3 OF 3
	APPROVED	HS	TITLE	SCALE
	DE APPR.	DS	WEARPLATE ASSY	NTS
	DATE	15.05.04	COPYRIGHT © 2014 BY DART AEROSPACE USA, INC. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. AND IS SUPPLIED ON THE EXPRESS UNDERSTANDING THAT IT IS NOT TO BE USED FOR ANY PURPOSES OR DISSEMINATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE USA, INC.	

